Proposal to Assess Electricity Supply, Resources and Bulk Transmission Planning Data

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INTRODUCTION

To support the 2005 Integrated Energy Policy Report (Energy Report), the California Energy Commission (Energy Commission) staff proposes that a comprehensive review of electricity supply, resource and transmission planning efforts by load-serving entities (LSE) be an explicit objective for 2005 Energy Report.

California's electricity system is physically interconnected among many local entities and is embedded within a very large western interconnection. Thus, problems in any one area can become problems for all. The staff's proposed review stresses three dimensions. First, staff proposes to review and integrate plans for all major LSEs within California to ensure that statewide trends are fully understood. Second, the staff proposes integration between generation and transmission planning to ensure that long-lead time infrastructure options are understood in the context of resource needs. Many such transmission projects are intended to strengthen California's connection with other portions of the West and to accommodate instate resource development. Third, developing a quantitative understanding of the range of need for new resources based upon the underlying supply and demand uncertainties. The staff believes that greater analytic integration is essential to ensure that policies are implemented for providing reliable electricity to California ratepayers at affordable rates in an environmentally acceptable manner.

This white paper describes some of the foundational uses of the input from LSEs and staff in the 2005 Energy Report and as input to the 2006 procurement proceeding at the California Public Utilities Commission (CPUC), and the California Independent System Operator (CA ISO) 2006 Grid Planning process.

All interested parties are invited to comment on these proposed analyses and the data needs implied by them at a mid-November workshop. A second staff document will identify more precisely the specific data that the staff believes should be provided by LSEs and other entities. After the workshop, the Committee will propose "supply resource and transmission forms and instructions" for the full Energy Commission to adopt. Finally, the staff believes these analyses and related data requests address information needed for a biennial 'big picture' assessment of supply, resource and transmission planning. Additional data requests may be necessary to assess specific issues identified during initial review of resource plans.

Summary of Proposed Assessments

Public Resources Code (PRC) section 25301 directs the Energy Commission to conduct regular assessments of all aspects of energy demand and supply. In the Energy Report, these assessments serve as the foundation for policy recommendations to the Governor, Legislature, and other state agencies. Section 25301 requires the Energy Commission to understand the trends in loads and resource development that together affect the reliability of the electricity system.

In the Energy Report proceeding, these trends will be reviewed and assessed from the perspective of PRC 25302(c) which requires the Energy Commission to identify "… the need for resource additions, efficiency, and conservation… ." Further, newly enacted PRC section 25324 requires the Energy Commission to adopt a strategic transmission plan that recommends investments in transmission infrastructure.

The September 3, 2004, Committee scoping order identified the following key issues:

- Overcoming barriers to implementing demand response programs;
- Improving generation and end use efficiency;
- Assuring resource adequacy, reliability, and deliverability;
- Reducing electricity generation dependence on natural gas;
- Resolving intermittency, integration, and other transmission issues associated with certain resources and demand response programs;
- Improving transmission system planning and transmission infrastructure permitting and construction;
- Identifying Impediments and solutions to development of infrastructure;
- Improving coordination of infrastructure planning between federal, state and local government entities; and
- Improving integration of distributed generation technologies in distribution system planning.

Adequacy of LSE Planning

Given the emphasis on resource adequacy and system reliability that has developed over the past year, the staff believes that an evaluation of the adequacy of resources is a key issue for this Energy Report cycle. To understand how LSEs are planning to acquire resources, each LSE must submit loads and resources in a common format. The staff anticipates reviewing these submissions, compiling statewide and regional totals, and comparing one to another to understand more clearly how their individual planning processes would fill the gap between load and existing resources.

Further, given the policy preferences established in the *Energy Action Plan* (*EAP*) commonly known as the "loading order," the staff believes that it is important to understand what all LSEs are doing with respect to these types of resource additions. By statute, the CPUC has regulatory oversight of Investor-Owned Utilities (IOUs), but local governing boards of municipal utilities have autonomy to pursue such resource additions. Energy service provider (ESP) customers may participate in some energy efficiency programs, and renewable generation was attractive in the early stages of competitive marketing, but we have little recent information about ESP activities. The staff believes that it is important to understand more fully how all LSEs plan to rely upon these categories of resources.

Analyses to determine transmission system adequacy remain fragmented and disconnected from generation planning despite numerous efforts to move toward

greater integration. Sentiments to place all resource options on a "level playing field" are popular, but seem to have been ineffective given the great disparities of time horizon, analytic rigor needed to garner support for a specific project/program, and ratemaking treatment. The staff interprets newly enacted PRC 25324 to require a long-term perspective for transmission planning, at least for "strategic" infrastructure, that will establish the capabilities of the transmission system for many years to come.

Strategic Transmission Planning

As noted above, the Energy Commission is now directed to adopt a strategic plan for the state's electricity grid, and recommend actions to implement investments in needed transmission infrastructure. This strategic plan will be part of the 2005 Energy Report. The 2005 Energy Report proceeding will be the first cycle of a regular statewide strategic transmission planning process. The staff intends to develop a statewide transmission plan that will assess statewide transmission project plans and needs, and prepare a strategic plan for the state's electric transmission grid. The plan will include recommended actions to ensure reliability, provide congestion relief, and meet future load growth.

The staff believes that specific transmission planning information is needed to:

- Develop a coordinated transmission planning process for California to:
  - examine statewide future corridor needs,
  - provide an early examination of transmission alternatives to expedite the transmission permitting process, and
  - provide transmission project assessments for the procurement process.
- Develop a strategic electricity grid plan for the state to:
  - recommend actions to implement investments in transmission infrastructure,
  - ensure reliability,
  - relieve recurring congestion,
  - meet future load growth, and
  - satisfy the state's RPS goals.

While the CA ISO conducts an annual grid planning process for the majority of the state, three other control areas do not fall within the scope of the CA ISO's process. Despite recent efforts of the CA ISO and CPUC to translate CA ISO-approved transmission projects into permitted transmission projects, this goal has not yet been achieved. While this new statewide process will not be able to accomplish all of these objectives in this initial cycle, we hope to establish a basic approach that can be built upon in subsequent cycles.

Coordination Between the Energy Commission and the California Public Utilities Commission

In addition to supporting the Energy Report policy recommendations, electricity and natural gas assessments for the IOUs will inform the CPUC 2006 procurement rulemaking. The Assigned Commissioner's Ruling (ACR), issued by President Peevey on September 16, 2004, in CPUC proceeding R04-04-003, provides a brief description of the links proposed among the planning proceedings of the Energy Commission, CPUC, and the CA ISO.

A key element of the ACR is that the Energy Report will determine the range of need for resource additions for the three major IOUs. The ACR states that the CPUC plans to rely to a much greater degree upon the 2005 Energy Report to provide the quantitative basis for IOU need for resource additions than the 2004 CPUC procurement rulemaking relied upon the results of the 2003 Energy Report. To support this agreement, two key changes should be made. First, the 2005 Energy Report should provide an explicit need assessment for the bundled service loads of each IOU. Second, the 2005 Energy Report should evaluate major load and resource planning uncertainties, resulting in a range of needs that could be expected for each IOU, rather than the single deterministic need assessment of the 2003 Energy Report. The final Energy Commission-adopted need assessments and policy recommendations will be transmitted to the CPUC for the 2006 procurement proceeding. Given this quantitative assessment and policy recommendations, the 2006 procurement rulemaking should focus on the procurement strategies that each IOU proposes to follow in light of the range of needs identified in the Energy Report for that IOU.

While the Energy Report range of need, resource additions, and broad policy recommendations will form the basis for the procurement strategies IOUs propose to the CPUC, the staff understands the ACR to identify some considerations that may justify departures. These include:

- additional information not available for submission to the Energy Commission at the time of Energy Report data requests or hearings;
- specific costs of generation and transmission line additions, or demand side programs appropriate to a specific IOU, that differ from the generic characteristics used in the Energy Report; or
- statutory direction.

The staff understands President Peevey's ACR to direct the IOUs to provide requested load forecast, resource assessment, and related information and data to the Energy Commission to assist in developing the range of need for resources. The staff believes that the active participation of the three major IOUs and that of other LSEs is vital to the approach proposed in this paper. We understand the ACR to notify parties interested in addressing issues of load, forecasting, resource assessment, and scenario analyses as part of the resource planning process to participate in the Energy Report process. The staff welcomes the participation of parties who typically intervene in CPUC procurement proceedings and hopes that these parties will provide useful perspectives and comments as input into the Energy Report.

Coordination Between the Energy Commission and the California Independent System Operator

The *2003 Energy Report* identified improvements in the CA ISO's use of Energy Commission load forecasts as a key starting point for improved coordination. The staff anticipates a dialogue that clarifies a process of "top down" load forecasts generated through the Energy Report process with "bottom up" load forecasts needed for transmission load flow analyses. This disaggregation should be closely coordinated with the development of "load pockets" in the deliverability assessment methodology in the CPUC's Phase 2 of the resource adequacy track of the procurement rulemaking – R.04-04-003.

With the enactment of PRC 25324 requiring development of a strategic transmission plan, the Energy Commission and the CA ISO need to develop a mechanism that recognizes the results of the CA ISO's current grid planning process, previous efforts to create an assessment methodology for transmission projects justified through "economic" criteria rather than reliability criteria, and the bulk transmission system additions that truly are "strategic."

Reliance Upon Filings From Interested Parties

In the initial *2003 Energy Report*, the staff conducted most of the direct analysis, and parties commented on the assumptions, findings, conclusions, and recommendations. As we more fully implement the state's planning paradigm, the Committee has directed that LSEs provide a greater portion of the input into the proceeding. In California's electricity market design, private parties are accountable for carrying out the state's policies and reliably serving their load. Thus, the staff proposes that the responsible parties file their own assessments of future resource issues, with appropriate confidentiality protection for market-sensitive and individual customer information. The Energy Commission has already adopted Forms and Instructions requiring LSEs to provide load forecast and retail price information.

The energy Commission is authorized to require market participants in California to submit data and information:

> To perform these assessments and forecasts, the Commission may require submission of demand forecasts, resource plans, market assessments, and related outlooks from electric and natural gas utilities, transportation fuel and technology suppliers, and other market participants. [PRC §25301(a)].

In its September 3, 2004, scoping order, the 2005 Energy Report Committee has already indicated its intent to require each LSE with significant loads to provide basic supply-demand information. This staff white paper proposes the general types of assessments that LSEs should prepare and submit along with their supporting data and documentation.

This staff proposal addresses IOUs, municipal utilities, independently governed districts, irrigation districts, state agencies like the Department of Water Resources/State Water Project, and federal agencies serving end-users. LSE-based data inputs are crucial for all LSEs, irrespective of the form of governance or track record of performance. The Legislature directed the Energy Commission, through the Energy Report proceeding and its report to the Governor and Legislature, to prepare a complete evaluation that reduces the risk of surprises to the state's population and its economy. Very little load in California is served by systems that are not electrically interconnected; thus, problems in any one area can become problems for all. Thus, the staff proposes that all LSEs be required to provide analyses and associated data submissions except the very smallest. Nearly complete coverage will ensure a level playing field, with every LSE demonstrating that they are prudently planning to cover expected loads with realistic supply plans and dealing with the inevitable uncertainties. One aspect of the Energy Commission's job will be to examine how the combined efforts of all these parties are contributing to the state's and the West's integrated electricity system.

In this proposal, the staff requests the submittal of data from the state's LSEs with loads greater than 200 megawatts (MW) in either 2003 or 2004 (the two preceding calendar years) and the state's transmission-owning LSEs. We believe that this encompasses a total of 26 entities, including IOUs, municipal utilities and irrigation and water districts, ESPs, and the Western Area Power Administration. Community choice aggregators may meet this criterion in future Energy Report cycles.

In addition, the staff proposes to request data from select generators with contracts with the investor-owned utilities, both qualifying facility (QF) contracts and other contracts, in satisfaction of California's Renewable Portfolio Standard (RPS).

The amount and type of data the staff proposes to request varies across classes of market participants and within each class. The staff believes that it is appropriate to request more information from the state's largest IOUs than from public utilities, and more data from public utilities than from ESPs. Similarly, more information regarding generation should be requested from public utilities and renewable generators than from the IOUs and gas-fired merchant facilities. The staff has access to different amounts of data on the performance of these resources from other sources. Rather than make blanket requests for information, the staff proposes to ask for limited amounts of information that will fill the existing holes in our picture of California's electricity system.

Resource Assessments

The staff proposes a process for resource assessments that consists of three stages. Stage 1 identifies the range of need given various uncertainties. Stage 2 examines the resource options and strategic considerations that should be understood as the foundation for making policy recommendations. Stage 3 develops broad policy recommendations along the lines of the *EAP* "loading order" or perhaps more specific ones, if justified. Specific procurement strategies and implementation mechanisms are left to the CPUC's 2006 procurement proceeding for IOUs and to responsible decision-making processes for municipal utilities and other LSEs.

Stage 1: LSE Need Assessment

A need assessment consists of an analysis of existing resources, existing policy commitments, potential choices, costs and environmental impacts, and an examination of how differing resources might perform given differing criteria and major uncertainties in order to satisfy load forecasts. Unlike the need assessments of the 1980s and early 1990s, these high level studies are not narrowly designed to identify the actual least-cost resource. In this era of bidding and competition, final selection depends upon a combination of physical, financial, and other contract terms, and timing attributes that only come together in the request for offer (RFO) selection process. Our goal is to identify the characteristics of resource need and how that fits into overall long-term policy goals for maximizing benefits to California.

The staff proposes the following steps as activities in this analytic stage:

a) Each LSE will be required to provide a well-documented reference case covering 2004 to 2016 that includes load forecasts and tabulations of the energy and capacity from committed and future resources. The reference case should be developed from each LSE's understanding of key uncertainties. Standardized resource counting conventions will allow need to be determined using the 15 – 17 percent summer peak planning reserve margin adopted by the CPUC in D.04-01-050.

b) The staff will review each LSE's filings and compare them to others to identify alternative assumptions or outright incompatibilities that a statewide perspective should understand to exist among the plans of all LSEs. Major issues may justify further specialized studies or uncertainty assessments.

c) After a public workshop to identify key uncertainties (e.g. IOU customer departure through core/non-core or imposition of strict global climate change emission limits) that need exploration by system simulation, a limited number of alternative scenarios will illustrate the risks to reliability and ratepayer costs compared to the reference case. A few standardized scenarios will be required of all LSEs with the option for additional scenarios that each LSE believes reflect other crucial risks.

d) LSEs and stakeholders will be asked to describe the potential impact of other uncertainties using their own preferred modeling techniques, and to provide appropriate documentation.

e) Near the end of this stage of the proceeding, the Energy Report Committee will determine what variables must be updated to "refresh" the need assessment results and direct parties to submit revised values to include in its final resource need recommendations.

f) Following the workshops and hearings of this stage, the Energy Report Committee will provide its recommendation for the range of need for each LSE based on the record of the proceeding.

Stage 2: Review of Resource Options and System Performance Considerations

Many of the major choices facing California can best be addressed by policy discussion and targeted studies rather than overall system modeling. Examples include:

- exploring implications of greater retail choice,
- methodologies for assessing the risks resulting from key uncertainties,
- assuring resource adequacy and local reliability in a hybrid market,
- the contribution of bulk transmission to overall system goals,
- the impact of western electricity system design on California options,
- identify system performance considerations of the "loading order" preferences and other resource options,
- analyses to quantify how portfolios might best be designed to accommodate existing resource preferences and other resource options, and
- integrated analysis of the implications of new demand and supply resources for the expansion/modification of the transmission system.

We are sure that other parties can both identify useful issues as well as provide studies that suggest answers to key questions. The staff wishes to preserve time and energy in the schedule for these important topics, rather than focusing too narrowly on ranges of input assumptions and mechanistic "cranking" of system simulation and optimization tools. To some extent, these studies should also derive from the initial review of reference case load forecasts and resource plans, although we recognize that a purely sequential process is not compatible with the limited schedule for the Energy Report.

Stage 3: Policy Preferences

In addition to a quantitative assessment of resource need, the Energy Commission should develop broad policy recommendations for resource addition preferences that would satisfy this need. This is also a central element of the Energy Report recommendations to the Governor, Legislature, and all energy agencies required to consider Energy Report results.[1] There are inherent tradeoffs between factors tending to support specific types of resource additions, and it can be expected that no one resource category best fits all possible futures. While quantitative risk assessments are desirable to inform these policy choice selections, the progress toward accomplishing these studies will depend largely upon the ability and willingness of LSEs and other parties to provide them.

The staff proposes the following steps to accomplish this stage:

a) Review "progress to plan" in implementation of the *EAP* "loading order" preferences for the three major IOUs and the extent to which parallel policies exist for the larger municipal utilities.

b) Review tracking and evaluation systems that enable impacts to be monitored and departures from "progress to plan" identified and corrective action made in a timely manner.

c) Obtain and review policy recommendations from participants in the proceeding.

d) Identify key issues needing further study that may be resolvable in the 2007 Energy Report proceeding or other forums.

e) Following workshops and hearings of this policy stage, the Energy Report Committee will provide its recommendation for broad, statewide policy recommendations proposed for all LSEs based on the record of the proceeding.

[1] PRC 25301(f) requires a set of named energy agencies to use the *Energy Report* "information and analyses" as the basis for their energy decisions unless alternative assumptions can be specifically justified.

Major Categories of Data Needed to Support These Analyses

Summary

As noted above, the staff proposes that each LSE in the state with a peak load greater than 200 MW in either 2003 or 2004 (i.e., the immediate preceding two calendar years) be required to submit a 10 year resource plan.[2] The plan shall indicate forecasted load and energy obligations and the projected set of resources procured/needed to meet them. Supplemental data on the expected monthly energy production from each resource in an LSE's portfolio are also important to help understand patterns of need and the "fit" of various types of resource additions.

The staff believes that these resource plan data and supporting analyses are necessary to inform policymakers regarding the following topics:

- The extent to which existing and proposed in-state resources, out of state resources, and long-term contractual agreements are sufficient to ensure system-wide resource adequacy.

- The extent to which spot markets should be relied upon for energy or capacity.

- The quantity of generation capacity and types of physical or contractual resources needed to ensure resource adequacy on both a system-wide and individual LSE basis.

- How LSE portfolios will handle the major load uncertainty which will face them as California studies whether to expand retail competition.

- The procurement planned and necessary to meet the state's RPS.

- The electricity and natural gas price risk faced by California rate-payers.

The staff proposes that more detailed analyses be required of the IOUs than from the state's public utilities and ESPs, including estimates of the possible range of wholesale electricity and natural gas prices. Given the absence of broad geographic scope, the staff does not believe that it is necessary for public utilities to submit analyses of the deliverability of their resources to load. All LSEs should be asked to provide assessments of the major risks that they face which influence resource procurement decisions and the costs of providing energy, as well as information regarding their long-term energy and capacity contracts. Since the Energy Report proceeding is not concerned with ratemaking, neither the public utilities, nor ESPs, need to provide cost information related to these contracts.

[2] This threshold was adopted by the Energy Commission with the 2005 Demand Forms and Instructions.

The staff believes that it is important that LSEs provide data which will facilitate an understanding of the generic performance and cost information for the classes of generation resources they evaluate as resource options. In addition, some other information will be useful. These include hourly historical output from resources owned by public utilities outside the CA ISO control area, and those which are in service of RPS contracts with the state's IOU's. Estimates of future costs of the QF contracts are also needed from the IOUs to the extent that the CPUC's avoided cost proceeding (R04-04-026) has provided guidance.

Finally, each transmission owning LSE[3] should be required to submit transmission plans covering 2004 to 2016. These should include priority bulk transmission projects, the analytic methods used to assess project costs and benefits, the analytical results, the non-transmission alternatives considered in the planning process, a description of the comparative alternatives assessment process and results, the strategic benefits associated with each project, the resource deliverability implications of each project and regional implications of each project. The staff also requests a description of the efforts made to coordinate transmission plans and needs with other LSEs.

Finally, the staff proposes that each transmission-owning LSE should provide a description of transmission corridor needs, and corridor expansion and assessment activities, related to the transmission projects described above and related to any longer-term transmission planning efforts.

Resource Plans

To allow an assessment of long-term resource adequacy, the staff requests that LSEs submit resource plans which indicate the set of resources expected to be added to meet load obligations. The plan should describe projected loads, the expected operation of existing resources, and the acquisition and operation of new resources. For submittals in early 2005, the period is 2006 - 2016. The plan should assume a 15 – 17 percent planning reserve margin under expected (1-in-2) monthly peak load conditions and include, but not necessarily be limited to:

- A monthly capacity-resource accounting (CRATS) table.
- A monthly energy balance table.
- Descriptions of bilateral contracts.
- Descriptions of the characteristics of new resources/load that new resources are expected to meet.
- The impacts of potential changes in load obligations and other major uncertainties on the preferred resource plan and the associated changes in estimated costs.

[3] Having ownership of lines with voltages of 69kV and above that have a bulk transmission function (i.e., that carry electrical energy from where it is generated to the distribution system, other load centers or a neighboring control area.)

- An assessment of the ability of the set of resources assumed to meet load obligations given transmission constraints ("deliverability").[4]

In addition, the state's three major IOUs should be required to submit the following additional information:

- Impacts of desired upgrades to the bulk transmission system on preferred resource plans.
- Natural gas and wholesale electricity price forecasts used in simulations.

Uncertainty and Resource Planning Scenarios

To understand the range of needs for each LSE, the staff proposes to undertake an analysis of uncertainty for each major LSE's resource plan. The staff suggests that two categories of uncertainties be used to frame how uncertainties are considered: (1) those affecting the amount of load that an LSE will serve, and (2) those affecting the choices of resource that best fit need. Currently, the major uncertainties of the first type facing LSEs include possible changes in load obligations due in large part to policy decisions regarding core/non-core and community choice aggregation. Major uncertainties of the second type include changes in expected wholesale electricity and natural gas prices as they affect the choice of new resource additions, and, as they affect existing resources, on operating costs and the dispatch of individual resources.

The staff believes that discussions with the LSEs, the CPUC, and the CA ISO, perhaps in the form of a formal workshop, are necessary to establish what "uncertainty-driven" data and analysis should be submitted by LSEs to inform the policymaking process fully. Since the modeling approaches and techniques each LSE have available to them are likely to be different, the staff is reluctant to propose a specific approach that assumes all LSEs have the same capabilities. Once a focused discussion on uncertainties and analytic techniques has been accomplished, the staff will propose a specific set of data and information that LSEs should provide. This approach implies that a second grouping of resource planning data somewhat following the "basecase" or "reference case" is most appropriate.

[4] Public utilities are not requested to submit this component.

Upgrades to the Bulk Transmission System

For some LSEs, projections of resource procurement may depend upon assumptions regarding upgrades and additions to the bulk transmission system. Those upgrades already approved should be assumed in submitted resource plans. Should a resource plan preferred by an LSE include a major transmission upgrade or addition that requires yet-to-be-obtained CPUC approval, the LSE also should submit a resource plan and associated documentation in which the upgrade is not assumed. Essentially, the staff is requesting LSE procurement plans with and without major transmission projects. These plans will provide a framework from which staff will analyze the value of the proposed transmission project to non-transmission alternatives and form the basis for Energy Commission recommendations.

Deliverability of Generation Resources to Load

Effective resource planning requires that energy generated by projected resources be deliverable to load. The June 4, 2004, ACR in R.04-04-003 imposed a requirement that the IOUs evaluate deliverability in their long-term procurement filings. Subsequently, D.04-07-028 directed IOUs to ensure that their procurement practices were undertaken with the total cost of electricity in mind and set in motion efforts by the IOUs to identify means by which their choice of resources could lessen levels of transmission congestion. The staff proposes that deliverability constraints from inter- and intra-zonal transmission constraints be examined in the Energy Report proceeding.

The ongoing resource adequacy and procurement proceedings at the CPUC have not yet resolved how deliverability is to be evaluated; it is therefore not possible to determine fully which resources are deliverable to load.[5] This makes it difficult to determine what data and analyses are necessary to provide policymakers with useful information regarding deliverability.

In the absence of a recognized deliverability assessment methodology, the staff does not believe that it is possible to specify a complete set of information that can allow the implications of deliverability to be explored. Some deliverability concerns arise from intrazonal transmission constraints that are not associated with local reliability areas (LRAs). These may require projections of loads and available resources within areas that remain to be defined. The staff proposes discussions involving the CA ISO, IOUs, ESPs, and the CPUC regarding the data that would be reasonably compiled to provide the Energy Commission and CPUC with accurate and useful information on the ability of the LSEs to meet deliverability requirements.

[5] D.04-10-035 adopts a broad range of fundamental “counting” requirements, including a policy commitment to a deliverability adjustment to resources, but reserves development of a specific deliverability methodology to Phase 2. Phase 2 results are not expected to be adopted until summer 2005.

Collaborative Strategic Transmission Planning Process

The staff intends to develop a statewide collaborative transmission planning process and initiate an examination of long-term strategic interconnection needs and opportunities for California. These efforts are likely to involve a variety of analytic efforts and process development activities.

Strategic Transmission Planning Process

In developing a transmission planning process, the staff proposes to focus efforts on the following:

- Explore various methods for incorporating a social discount rate for planning and permitting projects,
- Explore various methods to incorporate long-term strategic benefits (quantitative and qualitative) into the planning process,
- Identify the most appropriate approach and examine non-transmission alternatives in the biennial Energy Report process,
- Ensure deliverability issues are addressed for resource procurement proceedings, and
- Facilitate stakeholder assessment of analytic tools used in the coordinated grid planning process.

The staff proposes to work with stakeholders to identify projects which need corridor or right-of-way studies to ensure effective and efficient permitting (e.g., the Tehachapi Wind Resource Area). The Energy Commission staff and stakeholders should conduct collaborative corridor analyses for key projects and corridor issues which require resolution. Stakeholders include the CPUC, IOUs and major municipal utilities, military bases, energy developers, regional and local planning agencies, and interested public. We propose the following collaborative efforts:

- The staff should investigate concepts for: 1) site/land/right-of-way banking for transmission, 2) the state adoption of corridors, and 3) preparing a program Environmental Impact Report.

- For corridor and right-of-way banking within state- and federal-controlled lands, the staff and stakeholders should research the development of a coordinated process or policy for designating and banking utility corridors and right-of-way, including multiple use infrastructure (e.g., natural gas or water pipeline) corridors. These stakeholders include the California Department of Parks and Recreation; U.S. Forest Service; Bureau of Land Management; investor-owned and publicly owned utilities; Native American tribes; and city, county, and regional planning agencies.

- As part of the Energy Report proceeding, the staff should work in coordination with the CA ISO's grid planning process to facilitate long-term corridor planning

and efficient permitting, including macro-level corridor viability assessments for candidate projects that will likely require a Certificate of Public Convenience and Necessity in the near-term.

To ensure transmission issues related to renewable resources are addressed, the staff proposes to:

- Provide independent review of the work being done by the Study Group for Phased Tehachapi Transmission Development in CPUC proceeding I.00-11-001, Phase 6, led by Southern California Edison and the CA ISO;

- Establish a similar study group to develop a transmission plan for the Imperial County geothermal areas;

- Initiate a study to assess the reliability and operational issues associated with integrating renewables into California's transmission system in a timely manner; and

- Investigate the need for modifying the CA ISO Tariff to include transmission projects necessary for meeting RPS goals.

2005 Strategic Transmission Plan

The staff intends to develop the initial 2005 statewide strategic transmission plan that assesses statewide transmission project plans and needs, as well as recommended actions to ensure reliability, provide congestion relief, and meet future load growth. Transmission work will build on the 2004 CA ISO annual grid planning results, the 2005 transmission submittals of the LSEs and collaborative activities of the 2005 Energy Report process. The staff will develop a 2005 strategic electricity grid plan with recommendations for implementing transmission investments.

The 2005 Energy Report proceeding will be the first cycle of this statewide strategic transmission planning process. Achieving all the objectives of this statewide process will be difficult in this initial cycle. The pace will somewhat depend upon the cooperation of the parties. However as the process becomes engaged in subsequent cycles and coordination with the CA ISO process, LSE transmission information, stakeholder groups, and the public improves, planning results will improve.

Next Steps

Specific Filing Requirements

The staff's companion paper spells out more precisely the variables that staff believes are essential to accomplish the analyses described here. Load forecast Forms and Instructions, and Retail Price Forms and Instructions, were adopted by the Commission on November 3, 2004. These will be distributed with an opportunity for comment.

Filing Dates

The staff believes that the supply-side data requested should be submitted to the Energy Commission by March 1, 2005, and that data and analyses related to uncertainties ("scenario analysis") and local reliability should be submitted by April 1, 2005.

Discovery

While cooperation from entities asked to submit filings is expected, the staff foresees the possible need for clarification regarding data and analysis provided (e.g., methods and assumptions used to calculate values, assumptions used in simulations). Accordingly, the staff anticipates the need for on-going discussion with the parties to facilitate a clear understanding of the data requests and the materials submitted in response to those requests.